

Kindly amend the application, without prejudice, as follows:

In the Title

Please replace the title at page 1, lines 1-2 with the following rewritten title:

-- APPARATUS FOR HYDROCARBON REFORMING PROCESS --

In The Drawings

Please replace the last sheet of the drawings containing Figures 18 and 19 with the attached sheet. As indicated on the attached marked-up copy of the original sheet containing Figures 18 and 19, Figure 19 has been modified to include flue gas exit 32, which was inadvertently omitted on the original drawing.

in the Claims

Please amend claims 1, 2, 4, 5, 8, 11-13, 16, 18, 19, 22 and 23 as follows:

1. (Amended) An apparatus for a hydrocarbon reforming process, comprising:

at least one combustion chamber having a first end and a second end opposite said first end;

at least one convection chamber having a first end and a second end opposite said first end of said at least one convection chamber;

at least one burner disposed in said at least one combustion chamber, said burner adapted to combust a fuel, thereby generating a flue gas having sensible heat;

communication means between said at least one combustion chamber and said at least one convection chamber whereby at least a portion of said flue gas flows from said at least one combustion chamber to said at least one convection chamber at a first location adjacent said first end of said at least one convection chamber;

transfer means whereby at least a portion of said flue gas flows to a second location in said at least one convection chamber adjacent said second end of said at least one convection chamber;

a first reaction chamber adapted to receive a first portion of a mixed-feed, a substantial portion of said first reaction chamber disposed in said at least one combustion chamber; and

a second reaction chamber adapted to receive a second portion of said mixed-feed or another mixed-feed, a substantial portion of said second reaction chamber disposed in said at least one convection chamber.

2. (Amended) An apparatus for a hydrocarbon reforming process, comprising:

a vessel having at least one partition wall disposed in said vessel, said at least one partition wall dividing said vessel into a plurality of chambers, including at least one combustion chamber and at least one convection chamber, each of said chambers having a first end and a second end opposite said first end;

at least one burner disposed in said at least one combustion chamber, said burner adapted to combust a fuel, thereby generating a flue gas having sensible heat;

communication means between said at least one combustion chamber and said at least one convection chamber whereby at least a portion of said flue gas flows from said at least one combustion chamber to said at least one convection chamber at a first location adjacent said first end of said at least one convection chamber;

transfer means whereby at least a portion of said flue gas flows to a second location in said at least one convection chamber adjacent said second end of said at least one convection chamber;

151 a first reaction chamber adapted to receive a first portion of a mixed-feed, a substantial portion of said first reaction chamber disposed in said at least one combustion chamber; and

a second reaction chamber adapted to receive a second portion of said mixed-feed or another mixed-feed, a substantial portion of said second reaction chamber disposed in said at least one convection chamber.

152 4. (Amended) An apparatus as in claim 2, wherein the substantial portion of said first reaction chamber is substantially vertical within said at least one combustion chamber.

5. (Amended) An apparatus as in claim 2, wherein the substantial portion of said second reaction chamber is substantially vertical within said at least one convection chamber.

153 8. (Amended) An assembly of multiple units for the hydrocarbon reforming process, each unit comprising the apparatus as in claim 2.

154 11. (Twice Amended) An apparatus as in claim 2, further comprising at least one flow of at least one of said mixed-feed and said another mixed-feed, wherein said first portion of said mixed-feed flows through said first reaction chamber co-currently with a flow of said at least one flue gas in said combustion chamber, and said second portion of said mixed-feed or said

another mixed-feed flows through said second reaction chamber counter-currently with said flow of said flue gas in said at least one convection chamber.

12. (Twice Amended) An apparatus as in claim 6, further comprising at least one flow of at least one of said mixed-feed and said another mixed-feed, wherein said first portion of said mixed-feed flows through said first reaction chamber co-currently with a flow of said flue gas in said at least one combustion chamber, and said second portion of said mixed-feed or said another mixed-feed flows through said second reaction chamber counter-currently with said flow of said flue gas in said at least one convection chamber.

13. (Twice Amended) An apparatus as in claim 7, further comprising at least one flow of at least one of said mixed-feed and said another mixed-feed, wherein said first portion of said mixed-feed flows through said first reaction chamber co-currently with a flow of said flue gas in said at least one combustion chamber, and said second portion of said mixed-feed or said another mixed-feed flows through said second reaction chamber counter-currently with said flow of said flue gas in said at least one convection chamber.

16. (Amended) An apparatus for a hydrocarbon reforming process, comprising:

a vessel having at least one partition wall disposed in said vessel, said at least one partition wall dividing said vessel into a plurality of chambers, including at least one combustion chamber and at least one convection chamber, each of said chambers having a first end and a second end opposite said first end;

at least one burner disposed in said at least one combustion chamber, said burner adapted to combust a fuel, thereby generating a flue gas having sensible heat;

communication means between said at least one combustion chamber and said at least one convection chamber whereby at least a portion of said flue gas flows from said at least one combustion chamber to said at least one convection chamber at a first location adjacent said first end of said at least one convection chamber;

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transfer means whereby at least a portion of said flue gas flows to a second location in said at least one convection chamber adjacent said second end of said at least one convection chamber;

a first reformer tube adapted to receive a first portion of a mixed-feed, a substantial portion of said first reformer tube disposed in said at least one combustion chamber; and

a second reformer tube adapted to receive a second portion of said mixed-feed or another mixed-feed, a substantial portion of said second reformer tube disposed in said at least one convection chamber.

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18. (Amended) An assembly of multiple units for the hydrocarbon reforming process, each unit comprising the apparatus as in claim 16.

19. (Amended) An assembly as in claim 18 further comprising at least one duct, wherein the at least one convection chamber comprises a first convection chamber and a